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THE OHIO STATE UNIVERSITY
COLLEGE OF EDUCATION
GEORGE F. ARPS, *Dean*

To All Ohio-Staters in School Work

AS a part of the program of the National Education Association's winter meeting in March at Dallas, Texas, the Ohio State University, cooperating with Dallas alumni, announces:

The Fourth Annual Ohio State University Dinner

Hilton Hotel, Dallas, Texas

At 6:30 P. M., Wednesday, March 2, 1927

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Educational Research Bulletin

AN ANALYSIS OF PROBLEMS INVOLVED IN A STUDY OF SCHOOL FAILURE

A. O. Heck
Ohio State University

The problem of school failures has long been an important one, for people in general and educators in particular have been asking the questions: "How much is the cost of schooling affected by the number of failures?" and "What losses other than financial are involved in the failing of pupils?"[1] To answer these questions we must agree upon an exact definition of "school failures," for it is a term which has frequently been misinterpreted.

Common Misunderstandings about School Failures

A person may be considered a school failure according to several different standards. For instance, a child who makes passing—even excellent—grades in all subjects, but is sent into the world a physical, moral, or social weakling, is designated a school failure. Furthermore, a child who passes all his subjects without working up to his capacity, that is, receiving "C" where he could easily have earned an "A," is called by some a school failure. School failure, as referred to in this study, however, is not concerned with these meanings; rather, *non-acceptable work in a grade or course in consequence of which it must be repeated*, is meant here.

It seems advisable to use the term school failure rather than non-promotion since it always indicates the necessity of repeating either the grade or the course, for in high school one may fail a course and still be promoted to the next grade. The term is appropriate, moreover, because that which is implied has happened, namely, failure. The failure may be due to the pupil, the teacher, the parents, the type of organization, or the kind of administration under which the child has pursued his work. It is failure on the part of some one or more of these which necessitates the repetition of the course or grade. Such failure should be recognized, responsibility determined, and the individual, who is responsible, held accountable. Therefore, non-acceptable work in a grade or a course, in consequence of which it must be repeated, is school failure.

On the question of failure of pupils in relation to the cost of schooling, Don C. Rogers, secretary of the Chicago Principals' Club quoted, some time ago, a Chicago newspaper writer who had said:

> The school board could close thirty schools, discharge thirty principals, and dispense with about one thousand teachers if so many pupils were not permitted to fail. What a tremendous saving it would mean to the taxpayers.[2]

The newspaper man had seen the report on failures for the Chicago school system. Two facts make this statement extreme.

[1] This is the first of several articles to appear in the Educational Research Bulletin under the same title.

[2] Rogers, Don C. "A Study of Pupil Failures in Chicago," *Elementary School Journal*, 26:273-77, December, 1925.

The first of these facts is that no account was taken of the many pupils who were probably doubled or that there are bright children as well as slow in the schools. On the average, we assume that each child should complete a year's work, as outlined, each year. Although the dull fail, the bright are expected to counterbalance their slow progress.

Second, it is not safe to reason that, could we eliminate all failure, the actual money cost of the school system would be lessened. Children must attend school a given period of time. If they never fail, they must, in Ohio, continue in school until eighteen[1] years of age unless they have completed high school. If a child fails he is forced to remain in school until the same age.[2] If he has failed frequently, the greater the likelihood of his leaving school as soon as he reaches the legal limit. A child, on the other hand, who never fails, not only must remain until the expiration of the legal limit, but he is quite likely to remain a longer period. Moreover, if all children progress normally, not only will more pupils be doing high-school work but a more diversified type of work will be required to meet the needs of the greater number of children who wish further schooling. Such demands, instead of decreasing the actual costs to the taxpayer, would mean greater taxation.

Is this an argument for a greater percent of failure? Certainly not! It simply points out a too common fallacy in the reasoning of both laymen and school men when discussing school failure. A more accurate statement is, that the money used for pupils who fail during the year represents a definite waste or loss. The actual cost of keeping school will remain in either case. If failure can be reduced, however, this cost can be counterbalanced by a credit item instead of being charged off the books as so much loss. This is certainly just as weighty an argument against a high percent of failures and is more truthful.

First among the losses other than financial there is an educational loss. Multiplied failures which retain pupils in the lower grades prohibit many children from ever coming in contact with the diversified courses of high school. Some high schools, to be sure, have no such courses. They give only the academic subjects demanded for college entrance. In order to appreciate this type of loss, therefore, one must conceive a modern high school with reorganized courses in such subjects as shop work and industrial arts. Many of these courses require no prerequisite but take children of fourteen years of age and upwards, regardless of training, and attempt to give them—besides industrial work—training in citizenship, physical health, and appreciation of some of the everyday but beautiful things in life. Such courses inculcate ideals and aim to make the humblest of children happier by inspiring them with ambition. As long as children are not promoted and held in the lower grades year after year, all the advantages of the modern high school are withheld from them. They not only have got little out of the academic work of the lower grades, but they are penalized for not doing so by being refused admission into a type of school work from which they might hope to benefit.

There is, second, a spiritual loss—that is, the loss of the individual's faith in his ability to accomplish anything which results from continued failure. Such a loss cannot be estimated, but it is probably far greater than is commonly supposed. "Nothing succeeds like success" is an old and trite phrase; the reverse statement, "Nothing fails like failure," is worth considering. We often hear it said that it takes failure to find the real man. This is far from being a universal truth—encouragement often does it. Children under the

[1]Certain exemptions are allowed.

[2]Unless mentally incapable of profiting by further work.

stigma of constant school failure too frequently develop a failure complex that remains with them all their lives.

Let us caution, we do not recommend elimination of failure, but a different method of determining it. We now set high standards; those who do not meet them are failed and must repeat. Under this arrangement, the child too often is ignored and extenuating conditions or circumstances are not considered. Ideally, may we not hope to use failure only in individual cases? May it not be based upon a detailed knowledge of the pupil, so that failing marks may be rarely given, and then only to those who have profited little or not at all from the course or to those who need a complete mastery of it for further work?

There is a third loss, a social one. When a fifth-grade teacher has a large percent of over-age children in her class groups, she finds that she must give an undue amount of time to them if they are to succeed. Time which she should give to the younger and abler children is thus dissipated; the class work is put on a low level; the abler pupils form habits of indolence—they become mischief-makers and seriously interfere with the work of the group. Thus, social attitudes are formed at an early age that are just the opposite of those which the school is commonly supposed to form. It is common knowledge among teachers of experience that too frequently the big over-age boy or girl passes on to the younger children more bad and vicious habits than the teacher can hope to eradicate.

How Many Children Do We Fail?

The importance of any study of school failures depends upon the amount of failure found in different school systems. Is the percent so great as to cause serious losses? The answer is not easy. In spite of numerous articles which discuss various phases of school failure, definite facts concerning the amount for any considerable number of children are hard to find.

The writer examined 125 recent city-school reports in order to secure the necessary data. These, for the most part, were made annually by school superintendents, 94 of whom gave no information concerning the amount of failure.[1] Thirty did discuss the topic, but six failed to give data from which the percent of failure for the entire city could be secured. The conditions for the remaining twenty-five cities are shown in Table I.

TABLE I

A Distribution of the Percents of Failure for Twenty-five City-School Systems

Percents of Failure	Number of Cities	Percents of Failure	Number of Cities
(1)	(2)	(1)	(2)
17	1	10	1
16	0	9	5
15	1	8	3
14	0	7	2
13	2	6	2
12	1	5	2
11	2	4	3
		Total	25

The information contained in Table I does not tell the whole story of the total amount of failure. Three practices made these percents smaller than they properly should have been. First, many of the cities promoted children conditionally but in no instances were these children included in the failing group. The percent of failure was determined by dividing the actual number of children not promoted, by the enrollment at the time of promotion. Children promoted conditionally who failed to make good were not included in the percents. Second, children who were regularly promoted the preceding term, but who for various reasons were demoted during

[1] The most recent of those on file in the Bureau of Educational Research, Ohio State University, were examined. No report previous to 1920 was used. Many of them were for the years 1924–25.

the semester, were not counted. Third, children above compulsory-attendance age who started the term's work and then dropped out of school were not included. We know that many of the third group were eliminated because they realized that failure stared them in the face. All such children belong to the failure group. Until we include these groups, we do not know the extent to which we are failing to reach our boys and girls.

A few reports used total enrollment as the base for determining the percent of failure. They listed the number promoted, the number failed, and the number eliminated. "Number eliminated" was not defined, but since the total of the three groups equaled the whole enrollment, it would seem to include all children who dropped the course regardless of cause. Some of those who were dropped should have been included among "the number failed"; others of this group had withdrawn for good and sufficient reasons and should not have been included, but neither should they have been included in the base. Had both these suggestions been followed the percent of failure would have been increased in two ways, that is, by increasing the numerator of the fraction and by decreasing the denominator. In spite of the errors of calculation, one city's failure was 17 percent and another's 15 percent. The median for the twenty-five cities was 9.1 percent.

Three cities reported only 4 percent of failure. The teachers in City I during the preceding year had studied the problem of grading and as a result of numerous discussions in teachers' meetings an ideal grading system was adopted. By this scheme, 4 percent of A's were allowed, 20 percent of B's, 52 percent of C's, 20 percent of D's, and 4 percent of F's or failures. Emphasis was placed upon the fact that classes were not all alike and that it was not expected that all teachers should always fail, or only fail, 4 percent of their pupils. Although individual teachers did not follow the plan in detail, they did follow it to the extent that the city average for failure was 4 percent.

The principal of the high school in City II reported that much attention had been given to the failing student. He was aided in scheduling his work, his problems were discussed, and special help was given which saved about one hundred students from the failure group.

From the report of City I we learn that the problem of grading was discussed by teachers and principals, the teachers followed the suggested plan, and the percent of failure was reduced. We have many questions to raise which the report does not answer. Did the teachers give any more attention to the child than formerly? Were any changes made in the curriculum in attempting to adjust the school work to the child's ability? Were high-school pupils given a wider choice in subjects to be carried? Did the teachers become concerned as to why so many children had been failing? We wonder whether the superintendent could answer "Yes" to all these questions, or whether he would have to admit that the only result of his campaign had been a lowering of standards—that is, that the same curriculum, the same methods, the same attitude towards the child remained—and a reduction of failure from 10 percent to 4 percent.

If the latter be true, we challenge the value of such a reduction. It is too obviously a lowering of standards purely for the sake of reducing the percent of failure. To be sure, teachers occasionally hold extremely high standards resulting in a huge percent of failure. Such standards certainly need to be lowered, but to lower a city's percent of failure from 10 percent to 4 percent without taking any steps to secure a better product is certainly a questionable, if not a vicious, procedure. City II indicated plainly in its report that such

steps for improving the educational product had been taken. City III, likewise, reported that some attempt had been made to improve the teaching and thereby lower the amount of failure.

Which grades fail the greatest number?—A knowledge of where failures occur is just as important as a knowledge of the extent of the failures. Are there certain grades in which the probability of failure is unusually high? To answer this, the percents of failure for each grade from I to VIII were ranked for each of seventeen cities. Eight of the twenty-five cities reporting did not give percents of failure by grades. The seventeen ranks for a given grade were averaged. The average rank for each grade is given as follows:

Grade	Average Rank
I	1.8
II	3.7
III	5.4
IV	5.8
V	4.1
VI	4.9
VII	4.6
VIII	6.4

A grade was given a rank of 1 if its percent was highest, a rank of 8 if lowest. Grade I with a rank of 1.8 had by far the greatest amount of failure; Grade II was second; and Grade V, third. The eighth grade had the least failure, and the fourth, next to the least.

Failure in the first grade ranged from 7.2 percent to 24 percent; the median was 16.5 percent. Failures in the eighth grade ranged from 0 percent to 18.04 percent, with a median of 6.7 percent. Even in the grade which had the smallest amount of failure, the median was greater than the percent suggested in many ideal marking systems which are based upon the idea of a normal distribution.

Each superintendent should consistently study failures in his system and make a summarized report of the extent of failure to his teachers which should contain comparisons with former years. Every classroom teacher could then compare the amount of failure in her grade, with the amount for the same grade in other schools; she could also compare the failure in her grade with the same grade of preceding years. If the teacher has an extraordinarily high percent of failure, one of several things may be true: she may be doing a poor job of teaching; the class may be slower than the average; conditions for study may be poorer in the school this year than in other schools or in former years; she may be holding too high a standard of scholarship. If, on the other hand, the percent is over large for all classes in this grade, both this year and in former years, she has good reason to believe that the course of study is too exacting. Such a report by the superintendent cannot help but give the alert classroom teacher a basis for improving her instructional work.

Of the 125 annual reports examined, only 5 reported failures by subject. The subjects reported, and the way they were reported, varied so much that they could not be summarized in tabular form. In one report English was given, in another it was listed as English I, English II, English III, and English IV. It is sufficient to note that the percents varied greatly. One report showed no failure in music, but 20.7 percent in foreign language; another, 3 percent in physics and in domestic science and 19 percent in algebra; another, no failures in English IV, Latin IV, French II, French III, German III, and Spanish III, but 22.1 percent in first-year algebra and in plane trigonometry; another fails no one in cooking but causes 27.4 percent to lose credit in French. One city reported that 12.4 percent failed in English III and no one in English IV; in English III 521 were enrolled and in English IV, 325. Again 15.8 percent failed French I

but no one failed French II and III. In another report, 16 percent failed chemistry out of an enrollment of 126, while 40 percent failed physics out of an enrollment of 111.

In his study of high-school failures, McElroy found that within the same system one high school failed no one in botany, while another failed 26 percent.[1] One failed 65 percent in commercial law, while another considered that all deserved to pass. One failed 6 percent in physics while another failed 25 percent. One failed 2 percent in Spanish, another, 36 percent.

Such variation as McElroy shows within the same system—it is just as great among teachers within a single school building—causes one to seriously question the standards which result in these pupils' failures. Should a teacher set an arbitrary standard, either her own or another's, and require all children to meet it in order to pass a course? Any standard will be arbitrary, but should not the standard for passing be individual? Many children will never make mathematicians, but there is probably no child who reaches high school but will profit some by a course in geometry. If a pupil has accomplished something in the course and has done his best, might he not be granted credit provided he graduates in a course that does not require further work in mathematics?

Such a basis for determining failure would demand more individual attention to pupils. It would force us to think of the child, his handicaps, his special abilities, his likes, his dislikes, and his character. At present, if the child has done his best, and his best is short of the arbitrary standard for doing further work in the subject, he now receives no credit. Even business pays the man for what he does. Education refuses to recognize that the child deserves any credit—he is failed.

Rogers and Keener forcibly call our attention to the fact that the average percents of failure for all grades in different school buildings within the same city vary greatly.[2] They report one school in Chicago which had .4 percent failure and one school which failed 35.2 percent of its enrollment. The remaining 270 schools varied within this range. In spite of the lack of ability and the low social standing of the children of certain districts, it is hard to justify a 35.2 percent failing rate.

When children in VI-A arithmetic were considered, it was found that 15 schools passed all pupils in that subject whereas one failed 63 percent. The average percent of failure for all VI-A children in Chicago was 16 percent. The Woody-McCall Mixed Fundamentals in Arithmetic, a standardized test, was then given to all the VI-A pupils. Since the teachers of the city had failed practically 16 percent in VI-A arithmetic, 16 percent of the children who ranked lowest on the standardized test were considered failures.

If the teachers had had a uniform basis for failing students, and if the abilities being measured in both examinations had been the same, the percents of failure as given by teachers should have approximated the percents based upon the standardized arithmetic examination. A zero correlation, however, was found to exist. School No. 2, for example, had no failures based upon the teacher's report, but when based upon the standardized examination 54 percent failed; school No. 265 failed 48 percent by teachers' marks, but only 5 percent by the examination; school No. 268 which had failed 63 percent of its enrollment would have failed only 20

[1]McElroy, Frank D. "Consider—The Failure Fetish," *The High School Teacher*, 1:5–6, January, 1925.

[2]Rogers, Don C., and Keener, E. E. *Pupil Failures and Subject Failures in the Chicago Schools*. Chicago, Chicago Principals' Club, 1926. (Service Bulletin, No. 4)

percent based upon the examination. Exceptions to this rule occurred. School No. 1 passed all of its VI-A pupils in arithmetic. All of these children were also able to pass the standardized examination.

An average percent of failure of 16 is too high. To fail one-sixth of our pupils surely implies either too high standards, a poorly adjusted course of study, or poor teaching. The opportunity for a large random sampling is great enough in a large city system so that we can insist upon having the percent of failure approximate the normal distribution. If this general principle is accepted, each school principal should expect to have her teachers make adjustments to such a general scheme in the light of their knowledge of individual pupils.

SUMMARY

School failure is defined as "non-acceptable work in a grade or a course, in consequence of which it must be repeated." A reduction of failure does not reduce the amount of money actually needed to support the schools. It does eliminate a wasteful use of money. Excessive failure results in other losses than financial such as an educational, a spiritual, and a social loss.

The average percent of failure for twenty-five city systems was found to be 9.1; the range was 4 to 17. The cities having only 4 percent of failure had given the subject of failure considerable study during the year covered by the report. Grades I and II had the highest percent of failure and Grades IV and VIII the lowest in elementary schools.

Percents of failure differed greatly for different subjects. In one city 16 percent failed in chemistry out of an enrollment of 126, and 40 percent failed in physics out of an enrollment of 111. School buildings within a given city differ greatly in percents of failure. One school in one city failed only .4 percent whereas another school failed 35.2 percent.

TEACHING LOADS IN JUNIOR AND SENIOR HIGH SCHOOLS IN THE LARGEST OHIO CITIES

JOSEPH A. BAER
Ohio State University

THIS study of the teaching load in high schools is part of a larger investigation of teachers' salaries in relation to such factors as experience and training. The data, for the junior and senior high schools in the cities of more than fifty thousand population in the state of Ohio, are summarized in this report. The teaching load is given in pupil-clock-hours per week, that is, hours of sixty minutes, not merely class periods. Each teacher gave his complete schedule of classes with the number of pupils in each class, the number of recitations per week, and the length of the class period. The number of pupils in a class times the number of recitations per week times the length of the class period divided by sixty gives the number of pupil-clock-hours for that class. The sum of the pupil-clock-hours for the seven classes listed by the teacher is the total pupil-clock-hours per week for that teacher.

An effort was made to include only full-time teachers and only actual teaching-time. It is probable, however, that some of the teachers with light teaching

loads are only part-time teachers who either act as heads of departments or have other school duties, while some of those with heavy loads may have included study-hall duties or have made an error in the number of recitations per week. We have reason to believe, however, that the picture given in the tables is about as accurate an account of the actual pupil-teaching load as one could expect to get.

TABLE I

TEACHING LOADS OF HIGH-SCHOOL TEACHERS IN CERTAIN OHIO CITIES

Pupil-Clock-Hours	Men	Women
1,250+	17	9
1,200—1,249	2	2
1,150—1,199	.....	4
1,100—1,149	1	.....
1,050—1,099	2	2
1,000—1,049	1	1
950— 999	1	.....
900— 949	3	1
850— 899	8	5
800— 849	9	8
750— 799	17	17
700— 749	25	26
650— 699	34	46
600— 649	53	53
550— 599	71	87
500— 549	88	116
450— 499	64	129
400— 449	52	104
350— 399	27	51
300— 349	10	26
250— 299	11	18
200— 249	13	19
Total	509	724
Median	544	506
Q_3	643	596
Q_1	461	432

Table I shows the total distributions for the men and women separately. This table means that 17 men and 9 women reported more than 1,250 pupil-hours per week; two of each reported 1,200 to 1,249 hours per week, and so on. No teacher reported less than 200 pupil-hours per week. The total range is found to be the same for both men and women, that is, from 200 pupil-hours to more than 1,250 pupil-hours per week. The median for the women is 506 pupil-hours per week, and for the men 544 pupil-hours. This would seem to indicate that the men carry a heavier teaching load than the women teachers. The interquartile range is greater for the men than for the women, being 182 for the former and 164 for the latter. This indicates a greater tendency to variability on the part of the men teachers.

Table II shows the median pupil-hour load for the various high-school subjects. The distribution by subjects shows a much heavier pupil-hour load for music and physical training than for the other subjects. The physical-training teachers have more actual periods per week than the other teachers, some of them reporting that they teach thirty-four periods out of a possible thirty-five. Their classes vary in size from 10 or 15 to 390 pupils. In all but two subjects, French and Latin, the men teachers carry heavier loads than the women. There are only six men teaching French and four teaching Latin. Art, English, home economics, and the languages are more commonly taught by women. The non-

TABLE II

TEACHING LOADS OF HIGH-SCHOOL TEACHERS IN CERTAIN OHIO CITIES

Subject	Men		Women	
	Total Teachers	Median Pupil-Clock-Hours	Total Teachers	Median Pupil-Clock-Hours
Art	6	650	41	510
Biology	16	610	16	575
Chemistry	35	529	5	425
Commercial	15	563	5	325
English	44	532	223	508
French	6	450	48	460
General science	25	538	14	500
History	56	536	71	543
Home economics	.....	.....	64	490
Industrial arts	33	525	.....	.....
Latin	4	450	67	488
Manual training	85	531	.....	.....
Mathematics	89	549	70	525
Music	16	625	13	775
Physical education	20	1,200+	29	838
Physics	40	545	.....	.....
Spanish	9	513	36	460
Miscellaneous	10	500	22	471
Total	509	544	724	506

biological sciences, commercial subjects, mathematics, industrial arts, and manual training are just as distinctly men's subjects. In biology, there are equal numbers of men and women. The women seem to be making a place for themselves in the teaching of mathematics also.

The usual schedule for the high-school teacher includes five classes per day, or twenty-five recitations per week, whether the period is of 45-minutes or of 60-minutes duration. Most of the variation in load is due to a difference in the size of classes. It is interesting to find from other tables that there is a noticeable tendency for the older, more highly paid teachers to have the lighter teaching loads. This is partly due to the fact that these teachers are given the more advanced classes, which are usually smaller. It is also possible that they are given certain extra-curricular duties that were not entered on the data card.

TABLE III

TEACHING LOADS OF JUNIOR HIGH-SCHOOL TEACHERS IN CERTAIN OHIO CITIES

Pupil-Clock-Hours	Men	Women
1,250+	9	12
1,200—1,249	1	12
1,150—1,199	1	2
1,100—1,149	2	1
1,050—1,099	4	5
1,000—1,049	4	12
950— 999	1	9
900— 949	3	9
850— 899	7	21
800— 849	9	40
750— 799	12	36
700— 749	8	43
650— 699	18	66
600— 649	39	94
550— 599	32	100
500— 549	23	56
450— 499	28	41
400— 449	17	22
350— 399	19	16
300— 349	16	11
250— 299	5	8
200— 249	27	25
Total	285	641
Median	562	622
Q_3	672	749
Q_1	363	524

The question of subject combinations has not been given very serious consideration in the large cities, as most of the teachers teach one subject only and many of them teach several sections of the same division of the subject as, for example, English I.

Table III shows the distribution of teaching load for men and women in the junior high schools. Both men and women have heavier teaching loads than in the senior high schools. The medians for the men and women are 544 and 506 pupil-hours, respectively, in the senior high schools, and 562 and 622, respectively, for the junior high schools. The total variability for the junior high schools runs much the same as for the senior high schools. The interquartile variation is much greater, however, in the junior high schools. The interquartile range for the men is 309 pupil-hours, and for the women it is 225 pupil-hours. The heavier teaching load is due in general to larger classes in the junior high schools.

The subject variations have not been included, but physical training and manual training show the highest teaching loads for men, while music and art show the highest teaching loads for women teachers.

The teaching load expressed in pupil-clock-hours does not tell the whole story concerning the teacher's educational activities, but it is the most definite means of objectively measuring what the teachers do. The data presented show a very wide variability among men and among women, between men and women, and in the various subjects of the high schools. It is very doubtful whether these wide variations can be justified on any grounds other than the present convenience of those responsible for the organization of the school program.

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Ohio State University, Columbus, Ohio

IN MEMORIAM

PAUL RAYMOND STEVENSON

WHEN the present director of the Bureau of Educational Research at Ohio State University came to Columbus in 1921 to organize the new Bureau, he brought with him from the University of Illinois Dr. P. R. Stevenson, a young man of splendid promise. Five years later this young man's life was ended; yet he had lived long enough to fulfil every promise magnificently.

He touched the manifold parts of education at many points and always with success. As a result of his studies of class-size, he became a recognized thinker on that subject. Last year when the National Association of Secondary-School Principals appointed a Committee on Size of Class, Dr. Stevenson naturally became a member of it. It is not too much to believe that, if he had lived, he would have carried his investigations into the effect of size of class on teaching to a point where a scientifically defensible plan of action could have been formulated.

He studied closely the question of school housing, and in this field he rendered some of his most valued services to the citizens of the state. He was not satisfied, however, that his labors should remain upon the level of service to particular communities. He must be seeking for wider action and service more fundamental. In collaboration with Dr. E. J. Ashbaugh, he made a measuring device for school buildings which has been published and used with benefit by many workers. He was not satisfied to assure a board of education a good school plant by examining the architect's plans; he was interested in securing the respect and good will of the architect himself.

Dr. Stevenson's teaching and investigation in the application of publicity methods to school business brought him to the notice of a wide and appreciative public. His materials were used not only in Ohio but in many other states. In a single year, 62 cities and 259 county districts asked for and received aid in effectively presenting to the people the need for increased educational support. If the children of Bennington, Vermont, or of Lawrence, Kansas, or of Jackson, Mississippi, or of San Jose, California, are getting better preparation for life, it is not too much to claim for him a part in this exalted service.

Paul Raymond Stevenson was a remarkable man. He was independent in thinking, yet sunny in disposition. He had a wide vision, yet he handled details competently. His opinions were valued, yet he never became self-opinionated. He led without arrogance and followed without subservience.

We respected him as a colleague. We loved him as a friend. We remember him for his tolerance, his ability, and his clear-grained human worth.

B. R. BUCKINGHAM

EVERY college teacher serves the communities of the state indirectly but it rarely falls to the lot of an instructor to come into contact with superintendents, boards of education, and communities. This privilege was given to Dr. P. R. Stevenson. For five years he rendered direct service to a large number of

communities, and these communities profited to a remarkable degree through his services. For the survey work which he conducted he was wonderfully adapted. He possessed an unusual bent for hard work and with it a vision of what a school plant should be far greater than that of the school man or board of education whose experience extends little beyond the confines of a single community. His ability to see clearly was coupled with the kind of tact that won over opposition and gained for the school many things which could not have been obtained otherwise.

Dr. Stevenson has passed on but he leaves a number of monuments in the way of finer school surroundings which will stand for years to come as a tribute to his ability. These will in turn be examples to other communities to the end that the youth of this generation and of generations to come may spend their school days in better surroundings. He was a potential friend to all the children of Ohio, and we only hope another may rise up to fill his place. We rejoice that he has lived, we sorrow for the friend who is gone.

B. O. Skinner
Superintendent of Marietta Schools

Discussion and criticism of articles which appear in this Bulletin are welcomed. The following interchange of letters may interest our readers who remember the article, "Arithmetic at the Crossroads." After reading the article Mr. Floyd T. Goodier, superintendent of schools, Chicago Heights, Illinois, wrote:

My dear Dr. Buckingham:

I am much interested in your article "Arithmetic at the Crossroads" in the Educational Research Bulletin for January 5, 1927. In connection with other school systems, of northern Illinois, our schools have been experimenting in a simple way upon some of the many problems in the teaching of arithmetic. Most of the conclusions in your article appeal to me.

I should like to raise a question with you in regard to the illustration which you give of teaching such a combination as 2+6. You imply on page two that you want the pupil to know the combinations as a habit and respond 9 to 4+5 in the same way he responds the letters d-o-g when asked to spell "dog." In teaching 2+6 why have "eight things before us?" In order to keep the child from counting is it not better to memorize the combinations abstractly without using objective material?

Recently, when visiting an arithmetic class, I found a teacher in the second grade using small blocks to give the children the means of finding the answers to addition combinations when they had forgotten them. I criticized her for this and advised her to teach the combinations arbitrarily by repeatedly focusing the attention of the class upon the right answers. I urged her to follow the laws of habit formation in teaching these combinations and if possible prevent exceptions in the way of wrong answers. I suggested that the pupils ought to memorize these combinations and give them automatically without any reference to the content. Was I wrong?

I have even thought of suggesting to our teachers that they teach the higher combinations first in order to remove all temptation of counting.

I shall greatly appreciate any suggestions you may have in regard to the problems I have raised.

To this letter, Dr. Buckingham replied:

I have your good letter of January 11 commenting on my article entitled "Arithmetic at the Crossroads." My judgment is that a child ought to respond with "9" to the combination 4+5 as he responds with "dog" to the letters d-o-g. I am not willing, however, to advocate the initial presentation of the combinations as abstractions to be memorized. In other words, I would not have the teacher merely write or say "4+5 are 9" with the idea that the children should at once say it, write it, and learn it for reproduction. I think a child is entitled to a verification of this number fact. I don't want him to count "4, 5, 6, 7, 8, 9;" but I do want him to realize at the outset that there is an objective basis for the fact in question.

I have thought that this may be accompanied by using a whole-to-part method of objective presentation rather than the more usual part-to-whole method. That is why I would have eight things provided and apprehended—by counting if necessary—as a preliminary to teaching 6+2. I would then have the total group separated into the two components under consideration and have each component apprehended separately but with the total kept in mind.

I agree with you, however, that the device, often followed by good teachers, of having

objective material at hand for pupils to use when they are in doubt, is a mistaken procedure. There is no guarantee that the whole-to-part method will be followed. In fact, it is almost certain that counting will take place. I should much prefer to have the number combinations, as they are learned, posted where the children may refer to them when in doubt. This may seem like soft pedagogy, but my experience is that children use the posted number facts as long as they need them, and then abandon them for the sufficient reason that it is more satisfying and more expeditious to get the answer without reference to the posted combinations than it is to refer to them. Moreover, by the device of posting the combinations, practice in error is avoided. There is no reason why a child should get any of the combinations wrong when they are available to be consulted.

I, too, have thought of suggesting that the larger combinations be taught first so as to reduce the likelihood of counting. I wish someone would try this experimentally. In my own thinking and in such experimenting as I have been able to do, I have used an arrangement of the combinations which begins with the easy ones and keeps apart those having common elements. For example, I begin with 2 and 2, followed by 1 and 4, 3 and 3, 1 and 7, and so on.

I agree with you that this whole question is a good one for study. If you start anything along this line, I shall be glad to cooperate.

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THAT which many a superintendent has dreamed of doing, and few have done—the writing of a readable annual report — has been accomplished by William McAndrew, superintendent of the Chicago public schools. One cannot lay the report[1] down without an effort, and after one does put it down, it is picked up again for another glance; then the reader is utterly and irretrievably lost. It's as fascinating as a thrilling novel and much more worth while.

The "Hallowe'en Experiment," "The Hundred Percent Habit," "Character Training," and "Interruptions," "Curriculum Revision," and the "Sampling Day" are particularly interesting, but all of the good things cannot be enumerated without giving the whole index, which is a bit of a marvel in itself. An index in a superintendent's annual report? Who ever heard of such a thing? Yet it is here and it is decidedly usable. There are pictures, too. Not pictures of fine buildings, but pictures of healthy, upstanding boys and girls, future citizens of Chicago, each of which carries its own story.

The value of the report is further enhanced by epigrammatic quotations at the top of each page. These represent the ideas of various minds from Periander, of Corinth, with his "Work can accomplish anything" to Buckingham's "You can't fall back on general ideas and rhetoric any more in discussing education. You have to tell how many and how much."

McAndrew has told how many and how much, but he has done it so ingeniously that the figures do not bore one. They fit in naturally and serve to illuminate the text. The less interesting material is relegated to the back of the report. It is there if anyone wants it for reference, but it takes the subordinate place that such material should have.

The report is an excellent example of "creative supervision." There is no preaching, there is no pedantism. It is simply the straightforward story of what has been, is being, and can be done in a large school system. We lay the report aside with the hope that it may mark a new era in the writing of superintendents' annual reports.

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Two Thousand Spelling Demons is the title of a high-school spelling book written by Professor Ward G. Reeder and recently published by Silver, Burdett and Company. The word list of the book is based on an extensive research calculated to discover the words which high-school students use and which they misspell when they use.

[1]McAndrew, Wm. *Annual Report*, June 30, 1926. Chicago, Illinois, Department of Education, 1926. 65 pp.

ACTIVITIES OF BUREAUS OF EDUCATIONAL RESEARCH

H. B. CHAPMAN
Bureau of Research, Baltimore Public Schools

THE rise of bureaus of educational research was contemporaneous with the evolution of group testing of intelligence and the early extension of subject-matter tests, as was pointed out in a previous article in this Bulletin.[1] It is therefore reasonable to expect a rather constant relation between their developments because of the need for new tools and the advantages resulting from the availability of such tools.

Testing was at first a distinct novelty, surrounded by an air of skepticism and mystery and regarded as beyond the comprehension of teachers—in fact, of many superintendents. Thus, the introduction of standardized tests made necessary an extensive campaign for education. Many bureaus of research were organized primarily for the purpose of administering tests, for interpreting the results attained, and for directing a general program of education in regard to the use of tests. Bureaus in universities and state teachers' colleges were in many cases set up to effect a similar state-wide program which included the sale of test materials and the promotion of their use by a generous advisory service. These activities still constitute an important part of the work in the majority of the bureaus of research in the administrative units of both city and state.

At the present time, according to the findings of a recent study of research bureaus, 96 percent of all bureaus administer achievement tests, 88 percent make use of intelligence tests, and 86 percent of the city bureaus are directly responsible for the classification of pupils. Testing and classification are thus the most widespread and common activities of such bureaus, as well as probably the most important, especially in the case of city bureaus. In addition to routine testing, many bureaus conduct each year one or more formal experiments in the curricular or administrative fields. Curricular experimentation was reported by 81 percent of the bureaus in city school systems; administrative, by 48 percent.

The bureaus frequently have functions of an administrative character which require that special studies and surveys, both instructional and administrative, be made. This survey may assume a variety of forms. It may be an extended study of one school subject such as pupil proficiency in reading or spelling; or it may be a somewhat formal investigation by experts involving the use of an elaborate technique. The bureau may be called upon to make a detailed analysis of the building needs of a community, and to formulate a program on buildings and sites to cover a ten-year period. Surveys within this range of meaning were reported by three bureaus in every four.

The activities of bureaus in many cities have led to the organization of new administrative departments to remedy the needs discovered by the bureau. The programs of these departments have often—one might say, usually—been the result of considerable experimentation to determine the most reliable procedures. Because of their experiments, the bureaus have been asked to undertake the development of the new programs and to assume responsibility for their success. In this way a number of important individual functions have developed, the extent of which may be

[1] This is the third article of the series on Bureaus of Educational Research.

seen from the following table. Here is shown the percent of the fifty-eight city bureaus reporting which have each of the administrative functions:

Functions	Percent Having
Organization and supervision of special classes	58
Curriculum revision	54
Organization and administration of psychological clinic	51
Educational guidance	48
Student-personnel problems	41
Vocational guidance	36

In addition to the administrative functions of a more or less specialized character, the bureaus are often called upon for purely service activities, such as training teachers for testing, analyzing textbooks, and compiling budgets. The total number of service functions taken in the aggregate for all bureaus is very large. There is, moreover, a very real danger in the accumulation of such service activities. Like barnacles, they may seriously retard the advance of the school system by reducing the opportunities for research and experimentation by an organization especially designed for that purpose. The following table shows the percent of the bureaus which reported the service activities listed, as part of their work:

Service Activities	Percent Having
Designing records and report forms	65
Constructing objective tests for local use	60
Training teachers for testing	55
Teaching service	38
Publicity service	38
School finance other than budgeting	33
Checking building plans	30
Textbook analysis	27
Compiling the budget	25

Another phase of the work of bureaus of educational research which has merely been touched upon hitherto, deals with the forwarding of technical knowledge and skill and with promoting research generally. We have already seen that some of the state bureaus, particularly those in teacher-training institutions, were established to promote the use of educational measurement. By means of extension courses, state associations of superintendents and teachers, and research societies, personal contacts are made, instruction and training in techniques are given, and the research point of view is gradually engendered.

Dr. W. J. Osburn, director of the Wisconsin Bureau of Tests and Measurements, follows a plan which is used with variations to fit local needs by many state bureaus of research. He issues mimeographed circulars from time to time dealing with the problems upon which research is needed. These are sent to city bureaus and supervisors for the purpose of stimulating them to similar activities in their own schools. Sets of problems which are suitable for field research are also sent to the school people in the state who are asked to indicate the problem on which they would like to work. When a choice is indicated, suggestions on such items as methods of procedure and methods of tabulating results are furnished by the bureau. At the close of the year, reports are received from those who succeeded in carrying their projects to completion. Cooperative projects undertaken in this way constitute important channels through which state bureaus are able to influence the trend of education throughout the state and are afforded the opportunity of lending a more direct form of assistance.

Because of a very apparent interest on the part of district superintendents and the supervisor of English of New York state, the New York Educational Measurement Bureau decided, in 1924, to conduct a survey of the teaching of English.[1] Since no standard tests on the market were adequate to meet the needs of such a survey, the bureau was

[1] *Twenty-first Annual Report of the Education Department.* For the year ending July 31, 1924. Albany, New York, The University of the State of New York, 1925. p. 239.

compelled to devise its own tests. Data on methods and materials of instruction were secured from representative teachers, in addition to a measure of pupil achievement. The entire findings were reported to the state in a publication which showed the complete status of English instruction in the state of New York.

The New York bureau is also working upon the problem of classification in rural schools. Cooperative surveys have been conducted and actual experimentation undertaken in adapting instruction to ability groups. During 1924–25, the bureau made a study of classes for crippled children. Its survey found little uniformity of organization but a number of practices which might be disseminated with advantage to other communities of the state.

These projects illustrate some of the methods employed by state bureaus for promoting the research attitude and for rendering expert service to the school men within their territories. There are many other cooperative arrangements by which the effectiveness of research bureaus is extended.

Mr. William Betz, vice principal of the East High School of Rochester, New York, described the ramifications of the Efficiency Bureau of that city, as given in the following paragraph. One can easily perceive from his account how intimately the research bureau in a city system may function in promoting and coordinating reflective study of educative processes and policies by administrators, supervisors, and teachers.

> In general we depend upon four contributing agencies in connection with the work of the Efficiency Bureau. They may be enumerated as: (1) special investigations by individuals; (2) investigations by the Junior High-School Council; (3) surveys, studies, analyses, and the like made by committees; and (4) professional courses, extension work, and theses directed by the University of Rochester.
>
> An individual principal will often carry on privately a bit of investigation which exerts a corrective or broadening influence upon the policy of the Efficiency Bureau. . . . . Under the direction of the . . . . Efficiency Bureau, the Junior High-School Council prepared an extensive report, on the Junior High Schools, of Rochester, which was published in 1923. . . . . As to committees, three important groups are at work just now on the reorganization of the curricula, on the formulation of valid objectives, and on the introduction of a sound testing program. This work, too, is under the direction of the Efficiency Bureau. Finally, the University of Rochester has directly influenced this investigative work by the liberal scope of its extension courses.

The development of cooperative arrangements with local universities often constitutes a significant means by which a city bureau is able to train teachers in the techniques of research, and bring to university students the fruits of its experience. In most instances, the director of the bureau conducts one or more courses in the university. Cooperative arrangements of this type were reported at Minneapolis, Seattle, Enid, Providence, Baltimore, and Portland, Oregon. Through these connections the bureau is often able to draw upon a large group of experts for advice and assistance and to provide professional training in its particular field for administrators and teachers.

The training of workers for research is an important function of many bureaus, especially bureaus in state universities and teachers' colleges. In the Colorado State Teachers College, where research is organized on a basis with the subject-matter departments, such as psychology and biology, every candidate for the degree of Master of Arts comes in contact with the Division of Educational Research, because the Director of the Division is always a member of the candidate's thesis committee.

Some bureaus have several research assistant ships which are filled by degree candidates who are desirous of receiving special training in the techniques of research. At the Ohio State University, in addition to the research assistantships,

a joint arrangement is in effect with the three major departments of the College of Education whereby students enrolled in any of these departments may, with the consent of the head of the department, carry on research studies for credit under the direction of the staff of the Bureau of Educational Research.

Training research workers and guiding research studies of students was reported by 93 percent of the bureaus in universities, and by 60 percent of those in state departments in teacher-training institutions.

When viewed in the large, the activities of research bureaus present wide variations. In general, however, educational measurement, the direction of special administrative programs, the promotion of research attitude among educational workers, the giving of expert service, and the training of students in the techniques of research constitute the more important phases of their work.

ON THE FIRING LINE

Since the Board of Education, of Akron, will have $256,000 less in 1927 than in 1926, expenses are being curtailed in every way. Although every department feels the decrease in funds, the teachers' salaries are not being reduced nor the school year shortened.

Akron will open two new annexes to the Rankin and Findley Schools on February 1. Both schools will be organized according to the platoon system. The Findley School has been organized according to the traditional plan up to this time.

The students of Smithfield High School are putting out a monthly paper, *The Tattler*, which is doing a great deal towards enlisting interest in the local community.

Supervised study has been introduced into all the grades and classes in the Smithfield schools. Better work is the uniform result throughout the system.

The Yale Photo-Play Films will form the nucleus around which the activities of visual education at Rocky River will be organized during the year. Thirteen showings are now scheduled at intervals of two weeks. Each pupil in the schools will have an opportunity of seeing these historical pictures. A nominal charge of five cents for elementary-school pupils and ten cents for high-school pupils will be made to help defray the expenses. Pupils who do not bring the admission fee will be allowed to see the pictures just the same.

The teachers of Spanish at East High School, Cleveland, find that the pupils, by participating in Spanish plays, increase their vocabularies, improve their pronunciation, and generally strengthen their control of the language. They learn not only the value of individual effort but also the appreciation of the work of others. They gain self-confidence and learn to work in harmony with others. Illustrations, showing the costumes and customs of the country, add to the interest of the pupils in reading Spanish. Similar devices are used with the French classes, and, as much as practical, in the teaching of Latin.

The faculty of East High School, Cleveland, have been trying some interesting experiments. Remedial instruction, grouping pupils according to ability, and the use of informal tests, has each received its share of attention.

From the detailed study of pupils' errors in chemistry, three magazine articles have been written. One appeared in the *Journal of Chemical Education* for September, 1925, a second, in the *Journal of Educational Research* for November, 1926, and the third will soon be published in the *Journal of Chemical Education.*

In compliance with a request of Mr. Charles Barthelmeh, superintendent of Tuscarawas County, the Monroe General Survey Test in Arithmetic and Monroe Standardized Silent Reading Tests were given to the pupils of the elementary school at Strasburg and also to the five one-room schools in the township. In tabulating the results, a considerable variation was found in the medians of each type of school, for the village school had the higher median score in every grade. In the arithmetic test, there was a variation in points from 1.4 in Grade III to 15 points in Grade VI. A more marked difference in score was observed in the reading test, for the variation of the comprehension score was from one point in Grades III and VI to 4 in Grade IV, while in rate there was a variation of 16.6 points in Grade III to 41.1 points in Grade VI.

In her letter telling of the results of the testing, Miss Inez V. Summers, superintendent of Strasburg school, says:

> These data are not necessarily indicative of lack of teaching ability in the one-room rural schools but rather show the inadequacy of the present system, for it is handicapped by the lack of time and the inadequacy of equipment. If results were gathered from extensive experiment of a nature similar to this they would provide ample proof that centralized schools should supplant the scattered one-room schools in rural districts, in order that our educational system might become more efficient.

Miss Eleanor W. Skinner, vice-principal of North High School, Columbus, says that the teachers with the cooperation of the Student Council are trying to determine the causes of failures among the students. In an attempt to enlist the cooperation of the parents, the following letter was distributed by the Student Council:

DEAR PARENT:

May I introduce myself first and explain why I am writing you at this busy holiday season? The Student Council at North High School has chosen me as their spokesman and has given me the pleasant duty of writing to ask for your sympathy and help in the solution of a serious problem to which North High wishes to get the right answer.

This is the time of year when report cards go home and report cards give some measure of success or failure to each pupil. Unless each one of us has done his best, he will have failed, no matter what his grade is. North High will have failed, too, and that is what we all want to avoid.

Our Principal tells us that the cost of failures in our Columbus schools last year was $350,000. This would have built a new building, and would have relieved many crowded classes; or it would have equipped five new libraries. But it was wasted.

Our teachers and principals tell us that there are three main causes of failures: absence, poor habits of study, and indifference. If the entire enrollment of the schools of the city during last year is considered there were 3,200 pupils in Columbus absent every day of the school year. Surely a large part of this was not necessary. Some of us stay home for such trivial reasons. Won't you please help us bolster up our determination and see to it that every one of us gets to school whenever he should be there? Help us to use Saturdays and time after school for the errands. Help us to get up early enough so that we may be at school on time. Perhaps we would be more careful if we knew that our parents understood that absence from even one class means a "cut" and a "cut" spoils a record and makes for poor work.

Another reason for failure is poor habits of study. Some of us do not really know how to do it. Will you take the time to find out whether your boy or girl knows how to study? If you aren't satisfied with what you find, will you talk the case over with his teachers and see if between you a better way could not be found? Then if you will see that your son or daughter has a regular time and place to study and studies *regularly* good results are bound to come.

We are especially sorry for the third reason for failure. Some of us are indifferent to our school, our work, our teachers, and ourselves. We are careless and lack ambition and interest. Won't you help us find something to strive for, something to hold our interest, and something to make

us care about what we do and what we are? Your opinion of us matters so much. Perhaps if you will hold up a high ideal we shall find the determination to try to realize it.

And if there is ever anything that Student Council members can do to help, we are,

Yours to command,

THE STUDENT COUNCIL OF NORTH HIGH SCHOOL
WILLIAM NESSER, *President*

Superintendent Pierce tells of the curricular study that is being made in Rocky River in which the teachers are cooperating with the superintendent in reorganizing the course of study. The teachers are divided into groups, each of which studies the whole school field—elementary as well as high-school—for some particular subject. The committee on the science course of study is headed by one of the science teachers in the high school; his committee includes teachers from the high school and the elementary school. Together they are trying to decide just what science, and how much, should be offered to the pupils of each grade from the first grade throughout the high school. By this scheme each teacher will know just what has gone before and just what will follow, and the high-school teacher will know the foundations which have been laid in the elementary school for the more advanced work. The school officers and teachers are finding this study so stimulating that they are willing to spend two or three years on the curricular study, if necessary.

EDUCATIONAL READINGS

ALMACK, JOHN C., AND CARR, WILLIAM G. *The Nomograph Principle in Education*, *JER*, 14:340–55, December, 1926.

The nomograph has been described as "a graph composed of lines scaled relatively and placed in such relative positions that the values of the variables are found on a line crossing the scales." It is a short cut in calculation which has been used most extensively in engineering. The authors give examples of its use in education—computing an intelligence quotient, predicting the population of a school district, and determining district needs and educational performances relative to the community's ability. The application of the nomograph principle to education deserves the attention of educational statisticians.

MELTZER, H. *The Basic Concepts in Contemporary Life*, *JER*, 14:356–64, December, 1926.

Nearly three hundred basic social, political, and economic concepts of contemporary life were determined by a count-study of editorials and special articles in 112 issues of four important weekly magazines, and four books by so-called "frontier thinkers." An extensive table is given which lists the concepts and shows their weighted ranks. "Industry," "international questions," "democracy," "public opinion," and "League of Nations" are first in rank.

DOZIER, MIRIAM. *Confidential Recommendations as a Basis for Selecting Teachers*, *JER*, 14:325–35, December, 1926.

Teacher-training institutions have tended to emphasize technique and training, while those who recommend teachers tend to emphasize social qualities. The indication seems to be that these latter factors should be given special attention and that some training in social leadership should be provided.

REEVE, W. D. *The Mathematics of the Senior High School*, *TCR*, 28:374–86, December, 1926.

A suggestive outline is presented for the work in mathematics in the senior high schools. Provision is made for a full four-year course for those students who really need more than just the introductory courses.

DUNCKER, KARL. *A Qualitative (Experimental and Theoretical) Study of Productive Thinking, (Solving of Comprehensive Problems)*, *PS*, 33:642–708, December, 1926.

Dewey's explanation of the thinking process is widely accepted. This author has attempted to prove by means of experimentation that the theory does take into consideration all of the facts, hence is open to question. "First of all: there is no theoretical need for transfer from similar

NOTE.—The abbreviations used in this number are: *JER*, Journal of Educational Research; *PS*, Pedagogical Seminary; *TCR*, Teachers College Record; *CWM*, Child Welfare Magazine; and *S&S*, School and Society.

cases, and second, transfer from similar cases would, if it took place, involve some of those very theoretical features which it was invented for the purposes of avoiding."

CLARK, JOHN R. *Mathematics in the Junior High School*, TCR, 28:360–73, December, 1926.

The committee plan of curriculum instruction is being more and more widely used at the present time. Mr. Clark has developed his discussion as it might happen in such a committee.

MACPHAIL, A. H. *Classification of Freshmen at Brown University*, JER, 14:365–69, December, 1926.

The students in English I are classified according to the results of a series of tests, after which any students misclassified were shifted. This affected a very small number. The method has received the approval of the entire department.

CHRISTENSEN, ARNOLD M. *A Suggestion as to Correcting Guessing in Examinations*, JER, 14:370–74, December, 1926.

The suggestion is that a true-false test and a parallel multiple-response test on the same material be given and the student be given credit only when both statements are answered correctly. This tends to correct for guessing, and also increases the reliability and validity of the examination.

ENGELHARDT, N. L., AND ENGELHARDT, FRED. *Budgetary Practice in Local School Systems*, TCR, 28:394–412, December, 1926.

This is the third article of a series on school business administration. "A sound budget is necessary for the efficient management of a public-school system." A budgetary calendar with definite suggestions for following it is given. The limitations of the budget as actually worked out are also presented. Three of these limitations are quoted: "The budget cannot be substituted for good administration. . . . The budget will be as good as the executive makes it. . . . The budget should not be allowed to run the school and to kill initiative."

UPTON, CLIFFORD B. *Changing the Curriculum in Arithmetic*, TCR, 28:341–59, December, 1926.

The reconstruction of the curriculum in arithmetic goes on apace. Some of the important findings are reviewed and suggestions are made for adapting the curriculum to the pupils of varying ability. "Our greatest need today is a broad-minded, intelligent, and keenly analytical evaluation of arithmetic as actually used in life, such a survey to be made cooperatively by a large group of competent workers trained both in education and in mathematics."

TUDOR-HART, B. E. *Are there Cases in Which Lies Are Necessary?* PS, 33:586–641, December, 1926.

The author recognizes that the results are open to question according to their psychological value, since they are probably conditioned greatly by moral precepts and training. The children answer on the basis of what ought to be done, rather than on the basis of what they would do under the circumstances. "Social" lies tend to increase with age. No lies for "practical reasons" or for "moral reasons" show a slight increase.

CLARK, HAROLD F. *The Effect of Population upon Ability to Support Education*, JER, 14:336–39, December, 1926.

The ability of a community to support education does not vary directly with the ratio of the number of adults per child, but probably as the number of adults per child squared, and divided by four.

BENSON, ELIZABETH. *Are Children People?* CWM, 21:213–16, January, 1927.

This is the first half of an article which is intended to present "a child's thoughts on children and grown-ups." The author has an intelligence score of 214+ (Binet-Simon), which is the highest on record. At the age of eight, she was rated as having the intelligence of a "superior adult" and passed with high scores the examinations given to persons applying for positions as high-school teachers in Los Angeles. She is now twelve years of age and "will enter Bryn Mawr this autumn."

BAY, JAMES C. *Tools of Research Needed in the Preparation of Dissertations for the Doctorate in Education*, SE&S, 25:53–54, January, 1927.

The author found, by examining 204 Teachers College Contributions to Education, that approximately one-fourth of the dissertations use modern languages; five-eighths, statistics; and one-fourth neither languages nor statistics. There is "a marked shift from foreign languages to statistics as research instruments during the past eleven years."

CHAMBERS, EDWARD V. *A Study of Dishonesty among the Students of a Parochial Secondary School*, PS, 33:715–28, December, 1926.

The boys who were studied were receiving systematic religious instruction each day as a part of the regular school program. They were studied by means of stories involving ethical situations, by responses to questions, by their behavior in examinations, and by means of re-check tests. The boys know what honesty is, but they will cheat, if given an opportunity; being caught is a greater crime than the dishonest art itself; as they advance through the high school their standards become more lax, and systematic religious training does not eliminate dishonesty.

ZEIGEL, WILLIAM H., JR. *Achievement of High-School Honor Students in the University of Missouri*, S&S, 25:82–84, January, 1927.

Is a university justified in awarding scholarships to high-school honor graduates? To answer this question, the records of two hundred students holding scholarships who entered the University of Missouri between 1900 and 1922, and the records of the same number of students who did not hold scholarships, were investigated. As measured by such items as excess credits, time necessary for graduation, likelihood of graduation, membership in honorary fraternities, and participation in extra-curricular affairs, it was found the honor students appreciably excelled. This would indicate that, based upon such standards, the university is justified in granting scholarships to honor students.

BOOKS TO READ

GRUENBERG, B. C. (Editor). *Guidance of Childhood and Youth*. New York, Macmillan Company, 1926. xii+324 pp.

The parent who "really wishes to understand" will find an interesting introduction to authors in the field of child psychology in this book. The teacher and social worker will find it a good review of what they should have learned in their courses in child psychology and an attractive suggestion for bringing their professional reading up to date.

TERMAN, LEWIS M. AND OTHERS. *Mental and Physical Traits of a Thousand Gifted Children*. Stanford University, California, Stanford University Press, 1925, xv+ 648 pp. (Genetic Studies of Genius, Vol. 1)

COX, CATHARINE M. *Early Mental Traits of Three Hundred Geniuses*. Stanford University, California, Stanford University Press, 1926. xxiii + 842 pp. (Genetic Studies of Genius, Vol. 2)

Professor Terman's work is based upon a psychological study of the most gifted children in the public schools of California. His conclusions show that gifted children as a group are physically superior to unselected children; that they walk, talk, and reach adolescence slightly earlier; and that their purported "one-sidedness" is a myth. Practically as many as the 90 percent who surpass the average control group in intellectual interests are superior in strength of social interests and in moral development.

Dr. Cox combines the method of Galton, which Woods has called "historiometry," with a psychometric method in her study of three hundred eminent men born between 1450 and 1850. Some of the more important findings of this study are that eminent youths have an heredity above the average and superior advantages in early environment; that their childhood behavior indicates an unusually high intelligence quotient; and that "youths who achieve eminence are characterized not only by high intellectual traits, but also by persistence of motive and effort, confidence in their abilities, and great strength or force of character."

FREEMAN, FRANK N. *Mental Tests: Their History, Principles and Applications*. Boston, Houghton Mifflin Company, 1926. ix +503 pp.

Dr. A. S. Otis, reviewing this book in the *Journal of Educational Research*, says that it is "a scholarly discussion of mental tests in all their aspects, not only the so-called 'intelligence tests' but also tests of various aspects of personality. . . . Some of the simple methods of tabulating scores, as well as some of the educational uses of mental tests are discussed together with their applications to vocational guidance and selection, and the relation of intelligence to delinquency. . . . It is a book to be studied carefully rather than one to be read cursorily. It is an excellent textbook for a course in mental testing, especially an advanced course."

IN PAPER COVERS

DEARBORN, FRANCES R. *Course of Study in Indian Life*. Iowa City, Iowa, University of Iowa, 1926. 74 pp. (University of Iowa Extension Bulletin, No. 143)

This syllabus is intended not as a formal outline of a course of study in Indian history, but as an example of the ways in which problem-projects may be carried through the mental, physical, and social activities of children. It represents the procedures of a group of children in the course on Indian life at the University of Iowa School. Under each one of the twenty-eight problems are given questions, a teacher's outline for guiding the discussion of pupils, and a list of books and pictures upon Indian life. The bibliography is divided into references for teachers and for children.

MONROE, WALTER S., AND HERRIOTT, M. E. *Objectives of United States History in Grades Seven and Eight*. Urbana, Illinois, University of Illinois, 1926. 68 pp. University of Illinois, Bureau of Educational Research, College of Education Bulletin, No. 33,

One method of determining objectives in a subject is to find out what the teachers of the subject think is important. The validity of the method is open to serious question, but it at least has the merit of getting the opinions of one group. When combined with the judgments of many other groups besides the teachers of the subject, the method is greatly improved. The method was used as an illustration of "how to do it" with a

comparatively small group, their replies tabulated and then compared with other similar investigations.

MONROE, WALTER S. *The Duties of Men Engaged as Physical Directors or Coaches in High Schools.* Urbana, Illinois, University of Illinois, 1926. 22 pp. (University of Illinois Bulletin, Educational Research Bulletin, No. 30)

A collection and summarization of the duties of physical directors and athletic coaches, as obtained from about eleven hundred questionnaires, are given in this study. The data show that only 6.3 percent of the physical directors, whose questionnaires were tabulated, devoted all their time to coaching athletic teams. Approximately 32 percent of the men did some teaching of non-athletic courses. In answer to the question of what the coaches considered most essential in retaining their positions 43 percent said "personal character," 39 percent indicated "teaching ability," and only 11 percent gave "winning teams."

BOSTON PUBLIC SCHOOLS. *Report on Age and Progress of Pupils in the Boston Public Schools.* Boston, Printing Department, 1925. 136 pp. (School Document No. 12, 1925)

It is now more than fifteen years since the publication of Ayres' *Laggards in Our Schools* and the movement continues with increasing momentum. The report from Boston is quite extensive and comprehensive, covering as it does the grades and the high schools. The condition portrayed is somewhat unfavorable to Boston, but it seems to be a truer picture of the actual situation than some of the earlier studies in the same field.

SPRIGGS, LESLIE V. *American History Note Book, Numbers One and Two.* Chicago, Hall and McCreary Company, 1925. 96 and 128 pp.

These two publications are little more than formal outlines of American History through discovery, colonization, the Revolution, and, from that time on, through administrations. All that is necessary now is a stereotyped set of pictures and illustrations to make the formality complete.

NOTES ON SECTIONAL PROGRAMS

SEVENTH ANNUAL OHIO STATE EDUCATIONAL CONFERENCE

APRIL 7, 8, 9, 1927 RESERVE THE DATES

EDUCATIONAL AND INTELLIGENCE TESTS

A notable program of speakers of national reputation has been arranged for the section on Educational and Intelligence Tests of the Seventh Annual Ohio State Educational Conference, which will be held under the auspices of the Ohio State University. This section will meet in the Chapel on Friday, April 8, at 9:30 A. M.

The first speaker will be Dr. S. A. Leonard, of the University of Wisconsin, who is president of the National Council of Teachers of English. His address will deal with "Uses and Dangers of Measurement in English." Dr. Leonard is the author of several books and numerous articles regarding the teaching of English composition and literature, has developed well-known tests in English composition, has a vigorous and stimulating point of view, and is a forceful speaker.

Dr. S. A. Courtis, professor of education at the University of Michigan, and Instructional Educational Consultant for the Detroit Public Schools, will present a paper upon "The Ability Concept." Dr. Courtis has long been an outstanding influence in American education. His tests in arithmetic were for years the best known and most widely used of all test materials. His practice exercises in arithmetic, handwriting, and reading are notable examples of the production, by clean-cut scientific procedure, of the best educational think-

ing on self-activity and self-criticism, sound motivation, educational standards, and adjustment to individual differences.

The third speaker on the program Dr. E. L. Thorndike, professor of educational psychology, Teachers College, Columbia University, is an interesting and effective speaker. Dr. Thorndike, who is the author of more than three hundred books and articles on educational subjects, may well be called the father of experimental education. His address is entitled, "A New Type of Intelligence Examination."

It is felt that the program is of outstanding merit, and should be of great value not only to those who are following the development of educational measurements, but to all school people interested in an experimental and scientific approach to educational problems.

GEOGRAPHY SECTION

Each year there is a new group which feels that its interests will best be served by a sectional program. The executive committee encourages such demands and is pleased that a Geography Section has been scheduled for this year.

Professor C. E. Cooper, head of the Department of Geography and Geology, Ohio University, is chairman of the section. He has arranged a program which should be of vital interest to teachers of this subject.

We are especially fortunate this year to have Dr. W. W. Atwood, president of Clark University and one of the leading geographers of the United States, for our general program. He has also graciously consented to hold a conference with the Geography Section and will thus aid in launching this program properly as a part of the Conference.

Other speakers on the program will be: Dr. W. R. McConnell, Department of Geography at Miami University; Mrs. Maude Martin, of the Cleveland Heights Junior High School; and Mr. J. L. LaPoe, of the Bureau of Educational Research, Ohio State University. Scholarship, research, and practice will thus be well represented on this program which will undoubtedly attract those who are interested in this field of work.

ELEMENTARY PRINCIPALS

A program which, it is believed, will be of vital interest to all the elementary-school principals of the state has been prepared for this section. The three speakers chosen are intimately acquainted with the teaching situation and have organized their material about the key-note of the Conference, "Expertness in Teaching."

It is a real pleasure to announce that Dr. E. L. Thorndike, of Columbia University, who needs no introduction to the school principals, will speak before this section on "The Task of the Elementary School." We have tried for a number of years to secure Professor Thorndike for our Educational Conference but various causes have made it impossible in the past.

Dr. V. T. Thayer, who is in charge of secondary education at Ohio State University, will discuss "Democratic Supervision in Relation to Expertness in Teaching." Since the supervision of practice teachers in the secondary field is under his general direction, and since the training of supervisors is becoming more and more a part of his work, school principals will be especially interested in what he has to say on this subject.

Mr. E. M. Williams, principal of the Chambers School, East Cleveland, and vice-president of the Ohio State Elementary Principals' Association, will present the public-school man's point of view. The title of his address is "United Leadership and Expertness in Teaching."

We will be greatly surprised if this program does not create a strong demand on the part of the school principals who are given an opportunity to attend this Conference.